



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AMD2ARNG-P31-840-A-POE READING ONLY_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN from BALLABS TEST NO. 18939.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 20-AUG-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 2x2' MULTI COMPARTMENT LED TROFFER
 [MORE] FROSTED ACRYLIC DIFFUSER
 [LUMCAT] AMD2ARNG-P31-840-A-PoE READING ONLY
 [LAMPCAT] HLM 80 CRI, 4000K CCT
 [SEARCH_SOURCETYPE]LED
 [SEARCH_APPLICATION]INDOOR,DIRECT, MEDICAL
 [SEARCH_MOUNTING]RECESSED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1706
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	118
Total Luminaire Watts	14.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	2.08
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.42
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.92 ft
Luminous Width (90-270)	1.92 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3722	2741	1314
55	3872	2714	1131
65	3409	2543	986
75	1944	1852	782
85	376	751	649

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>
0	594.099	594.099	594.099	594.099	594.099	594.099	594.099	594.099	594.099
5	674.465	673.448	658.189	633.774	605.289	575.788	550.356	532.044	522.889
10	740.589	730.416	691.759	637.843	580.874	525.940	482.197	453.713	440.488
15	817.904	798.575	740.589	662.258	578.840	501.525	443.540	407.934	394.710
20	856.561	821.973	740.589	633.774	516.785	423.194	354.018	314.344	301.119
25	889.114	850.457	752.797	628.687	496.439	391.658	321.465	278.738	266.531
30	924.719	870.803	752.797	599.186	451.678	337.741	264.496	225.839	214.649
35	946.082	884.028	751.780	584.943	429.298	314.344	240.081	205.493	193.286
40	920.650	850.457	703.967	528.992	368.260	260.427	196.338	164.801	157.680
45	899.287	824.007	662.258	476.093	317.395	216.683	161.750	135.300	127.162
50	836.215	757.883	600.203	419.125	268.565	180.061	133.265	112.920	105.798
55	758.901	682.604	532.044	354.018	221.770	148.525	106.816	92.574	85.453
60	637.843	576.805	453.713	295.015	180.061	115.971	85.453	70.193	66.124
65	492.370	454.730	367.243	243.133	142.421	91.556	65.107	53.917	49.847
70	317.395	305.188	264.496	183.113	101.729	66.124	45.778	37.640	34.588
75	171.923	171.923	163.784	123.092	69.176	41.709	29.501	26.450	26.450
80	66.124	74.262	84.435	70.193	43.744	27.467	22.380	21.363	21.363
85	11.190	13.225	22.380	27.467	19.329	16.277	16.277	16.277	13.225
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	220.82	N.A.	12.90
0-30	467.04	N.A.	27.40
0-40	773.59	N.A.	45.30
0-60	1376.67	N.A.	80.70
0-80	1682.96	N.A.	98.70
0-90	1705.91	N.A.	100.00
10-90	1649.02	N.A.	96.70
20-40	552.77	N.A.	32.40
20-50	870.77	N.A.	51.00
40-70	809.93	N.A.	47.50
60-80	306.29	N.A.	18.00
70-80	99.44	N.A.	5.80
80-90	22.95	N.A.	1.30
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1705.91	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	56.89
10-20	163.93
20-30	246.23
30-40	306.55
40-50	318.00
50-60	285.08
60-70	206.85
70-80	99.44
80-90	22.95
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	117	117	117	117	115	115	115	115	109	109	109	105	105	105	101	101	101	98
1	107	103	99	95	105	101	97	94	96	93	91	93	90	88	89	87	85	83
2	98	90	83	78	95	88	82	77	84	79	75	81	77	73	78	75	72	70
3	89	79	71	65	87	77	70	64	74	68	63	72	66	62	69	65	61	59
4	82	70	61	55	79	69	61	54	66	59	54	64	58	53	62	56	52	50
5	75	62	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	43
6	69	56	47	41	67	55	47	41	53	46	40	52	45	40	50	44	40	38
7	64	51	42	36	62	50	42	36	49	41	36	47	40	36	46	40	35	33
8	60	46	38	32	58	46	38	32	44	37	32	43	37	32	42	36	32	30
9	56	43	34	29	54	42	34	29	41	34	29	40	33	29	39	33	28	27
10	52	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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UGR TABLE - CORRECTED

Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size UGR Viewed Crosswise

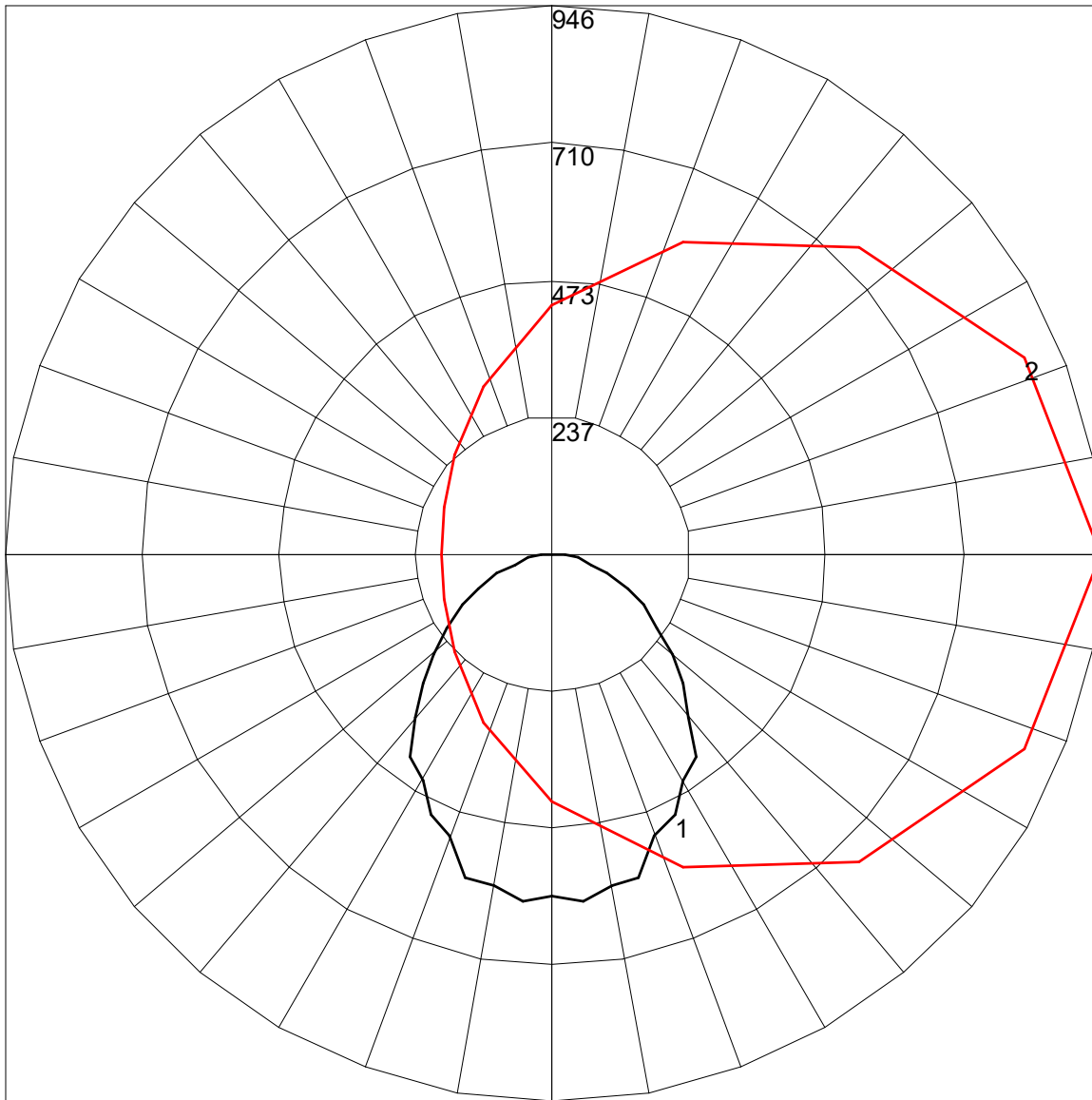
X=2H	Y=2H	19.4	21.1	19.8	21.4	21.7	12.5	14.1	12.9	14.4	14.8
	3H	21.0	22.4	21.3	22.7	23.1	14.0	15.4	14.3	15.8	16.1
	4H	21.3	22.7	21.7	23.0	23.4	14.4	15.8	14.8	16.2	16.6
	6H	21.5	22.7	21.9	23.1	23.5	14.8	16.1	15.2	16.5	16.8
	8H	21.5	22.7	21.9	23.1	23.5	14.9	16.1	15.3	16.5	16.9
	12H	21.5	22.6	21.9	23.0	23.4	15.0	16.2	15.4	16.6	17.0

UGR Viewed Endwise

4H	2H	19.8	21.1	20.2	21.5	21.9	14.0	15.3	14.4	15.7	16.1
	3H	21.5	22.6	21.9	23.0	23.4	15.6	16.7	16.0	17.1	17.5
	4H	21.9	23.0	22.4	23.4	23.8	16.1	17.2	16.6	17.6	18.0
	6H	22.2	23.1	22.6	23.5	24.0	16.5	17.4	17.0	17.9	18.3
	8H	22.2	23.0	22.6	23.5	23.9	16.7	17.5	17.1	18.0	18.4
	12H	22.2	22.9	22.7	23.4	23.9	16.8	17.5	17.2	18.0	18.5
8H	4H	22.1	22.9	22.5	23.3	23.8	16.6	17.5	17.1	17.9	18.4
	6H	22.3	23.0	22.8	23.5	24.0	17.1	17.9	17.6	18.3	18.8
	8H	22.4	23.0	22.9	23.5	24.0	17.3	18.0	17.8	18.5	19.0
	12H	22.4	22.9	22.9	23.4	24.0	17.5	18.1	18.0	18.5	19.1
12H	4H	22.0	22.8	22.5	23.3	23.8	16.6	17.4	17.1	17.9	18.4
	6H	22.3	23.0	22.9	23.4	24.0	17.2	17.9	17.7	18.3	18.9
	8H	22.4	23.0	22.9	23.5	24.0	17.5	18.0	18.0	18.5	19.1

Maximum UGR = 24.0

POLAR GRAPH



Maximum Candela = 946.082 Located At Horizontal Angle = 0, Vertical Angle = 35
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (35) (Through Max. Cd.)